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ABSTRACT

Much information about drug abuse and other controversial social problems comes from sources other than radio, television, or the press. In addition to private and government agencies that provide "walk-in" services and responses to correspondence, there are special telephone hotline services that give information on topics such as drugs and psychological problems. Other sources of drug-related information are friends, relatives, doctors, and other professionals. A test sample composed of 407 University of Connecticut students, was polled to determine students' habits of seeking information about drug abuse. The resulting data indicated: (1) that friends provide initial awareness about effects of marijuana and amphetamines, but the mass media account for great awareness about other drugs; (2) that information seekers prefer friends and professional sources over government agencies; (3) that friends are the single most popular source of information about marijuana, but professional and quasi-professional sources are preferred for information about other drugs; and (4) that friends are the most convenient source of drug abuse information. (RN)

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DISSEMINATION OF DRUG RELATED INFORMATION

by

Gerhard J. Hanneman

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DRUG ABUSE INFORMATION RESEARCH PROJECT

DAIR Report #3

CS 500 423

This report is one of a series of descriptive and predictive studies into the cognitive, affective and behavioral responses to drug abuse information. Project DAIR (Drug Abuse Information Research), proposes to define dimensions of information seeking and utilization that relate to drug abuse. Investigations in this series develop and implement the instrumentation for a methodology which includes surveys, experimental manipulations, field experiments and modeling. One goal of the series is the development of a stochastic behavioral model which allows the prediction of drug use behavior consequent to specified exposure from drug abuse information.

Computer time for statistical analyses was provided through the Facilities of the University of Connecticut Computer Center and supported by National Science Foundation Grant GJ-9 to the Computer Center.

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A complete list of available DAIR Reports is provided on the inside back cover.

Research into the relative believability of the media has generally indicated television as the most credible medium overall.[1] In other words, when faced with contradictory information, individuals tend to believe television over other mass media. Such studies also establish the various functions served by the media in fulfilling informational needs: the electronic media provide instantaneous general information,[2] while the print media may serve to supplement[3] or provide very specialized information.[4] Additional data indicate that credibility and use vary according to certain demographic predictors,[5] but except for very specialized topics, most persons (especially the better educated) use more than one communication source.[6]

However, frequently additional nonmedia impersonal sources of information are available to the public about specialized topics. Troldahl, Van Dam, and Robeck[7] suggest that expert agencies serve two functions in a communication network: they provide specialized information to the media for consequent dissemination and, second, they are themselves sought out directly for information. The idea-originating role of impersonal sources in innovation diffusion is documented by Rogers[8] but, research examining the news diffusion process has in general ignored impersonal sources.[9]

This study focusses on the role of nonmedia sources in relationship to the traditional media in disseminating information about drug abuse and treatment. It also explores the relationship between information seeking and the convenience and believability of available drug abuse information sources.

INFORMATION BROKERS

The specialized information needs of the public have traditionally been served by a variety of nonmedia institutions. For instance, agricultural extension services throughout the world disseminate information about farm innovations and products, and in developing nations, provide more general information as well.

Planned Parenthood is another traditional source of information about a very specialized topic. Yet their information function differs somewhat from the agricultural extension model, for, where the modern day extension service provides minimal direct agency access, Planned Parenthood provides for walk-in as well as written information seeking.

The nineteen-sixties saw the development of popularized information dissemination in four forms: draft information centers, print compilations about information sources, the "underground" media, and telephone information services.

Draft information centers provided guidance and facts for draft age young men that were either unavailable through the mass media or not readily provided by government sources. Instead of providing effort restrictions to its accessibility (and thereby, de facto, delimiting its use), most draft centers provided walk-in service and telephonic information, as well as responses to written inquiries.

A second development in the sixties saw the publication of such efforts as The Whole Earth Catalog, a compilation of handy tools, building materials, information and information source about birth, birth control, beekeeping and other such dissimilar topics. It, and similar successful publications (e.g., Radical Software, an information paper for half-inch videotape users) were nonprofit oriented and provided an information pool unavailable from traditional media or other organizations.

The most startling media development of the sixties seemed to be the growth of the "underground" or alternative media. The Village Voice became a wealthy and nationally respected newspaper; the Berkeley Barb went national as did the Chicago Seed; Rolling Stone became a counter-culture newspaper/magazine of tremendous popularity. These papers provided information about the political, social and cultural sphere of some of the under-25 age group that, for various reasons, the traditional media (or other sources) ignored. Seemingly, one reason such media succeeded was because there were informational needs about radical politics, venereal disease treatment, the effects of certain illicit drugs (without prejudging their use), or rock music albums not conveniently met by other sources. It is, of course, an entirely separate matter to investigate the nature of either the failure or unwillingness of traditional communication sources, such as parents, schools and religious and civic institutions to respond to those information needs.[10]

An outgrowth of the immediate need for specialized information was the telephone information service. Many of these services originated out of the need for immediate, often emergency, instrumental and confidential information about personal crises. However, in the early seventies telephone services have expanded to provide information about drugs, abortions, other psychological problems (suicide, depression, loneliness), rumors, and consumer protection.[11]

It may be considered a failing of the major media that while they provide extensive homemaker information (which is noncontroversial) they promulgate little about the draft, birth control, vernereal disease, sex, alcoholism, or drug abuse. Conceivably, publication of such information would not be as commercially profitable in as much as homemaker information is supported by food chain-, appliance store-, and department store-advertising supplements.

DRUG ABUSE INFORMATION

The case of drug abuse information and the media's responsibility and response to it provide an illustration of how public information needs are sometimes unmet. The need to promulgate drug abuse information is self-evident. Richards and Langer,[12] for instance, have identified drug abuse as a growing, youth problem. Named as one of the major problems facing this country in the seventies by both national polls and governmental authorities, some media especially television, apparently choose to treat drug abuse with a "business as normal" approach.[13]

In a content analysis by Hanneman and McEwen, et al.,[14] of television stations in a tri-state New England area (Conneticut, Massachusetts, Rhode Island) 94% of the drug abuse messages coded over a two-week period were broadcast during class C times, the times of lowest audience attendance. Additionally, while the PSA's observed made heavy use of prestige appeals, very few were oriented toward blacks or toward user groups. The messages seemed to ignore the different informational needs of parents, naive nonusers, and users. Further over 80% of the messages contained no factual information of apparent instrumental utility for any of the user groups.

These findings conflict with an article in Editor and Publisher,[15] describing the goal for a national drug abuse campaign. Grey Advertising Agency, the creator of 15 print messages and 24 broadcast commercials for NIMH, interviewed former addicts, housewives, students, sociologists and psychologists over a 6-month period in order to ascertain what type of campaign would be most effective. The agency concluded, without reporting their findings, a "nonpunitive campaign that would... arm potential tasters among the country's youth with facts which might help them resist peer group pressure" would have greatest impact. This goal seems in line with a NIMH[16] statement describing the purpose of mass media drug abuse campaigns as

providing general awareness and understanding. Note the apparent presumption that awareness is related to counter-message resistance, and the lack of emphasis on attitude-behavior change.

The effectiveness of the Grey Advertising campaign has yet to be assessed. However, Cwalina[17] has suggested that the availability of factual information about the effects of LSD is considered to be part of the reason that the use of LSD declined during the 1967-1968 period.

The relative importance of the mass media as a source of information about drugs is investigated in some research literature. In an extensive survey of three Canadian cities, Frejer, Smart and others[18] studied 12,554 students in grades 7 through 14. News media were cited as the most informative source from which one could learn about drugs by an average of 53% of the students. Also, in two cities, close to 50% of the students cited the news media as most helpful in convincing them that marijuana was harmful. Family and friends were the next frequently cited sources of information about drugs in general and marijuana in particular.

However, the latter findings compare to those of Zima and Smith[19] who examined drug information sources for high school students. They found peers and parents as the most helpful in dealing with drug problems.

Swisher and Warner[20] in a study of four approaches to drug abuse prevention (class health unit; group sessions using relationship techniques; using modeling by a nonuser; and modeling by a reformed addict) found no differences among approaches in terms of knowledge gained, attitudes changed or in the reported actual use of drugs. Also, none of the approaches had any significant impact on student attitudes toward drugs or were apparently effective in decreasing drug use.

In addition to the media, other sources about drugs are the various expert agencies (e.g., on a federal level, the National Clearinghouse for Drug Abuse Information),

specialized newsstand sources (e.g., booklets about drug abuse); write-in sources such as the Lutheran Church, Blue Cross-Blue Shield, Ann Lander's booklet "Straight Dope on Drugs"; school drug abuse education units; health services, such as hospitals and clinics; telephone drug information lines; and most often, friends.

For parents, most of these communication sources may also have utility; many concerned parents probably write for pamphlets and related materials, perhaps more often than their younger counterparts.[21]

Nevertheless, data indicates that youth are broadcast oriented, not print oriented. Thus, the efficacy of using print media directed to the young may be questionable. Even in special subgroups (e.g., among the college-age persons where the drug milieu is more highly sophisticated) where newspapers and magazines are consumed, the trend is toward reading Rolling Stone, the National Lampoon as much as it is toward reading newsweeklies.[22]

In terms of drug abuse information dissemination among parents, the research discussed in general implies that media sources are equally potent in creating awareness among adults (although, of course, literacy and particular media preference are related to educational level and other demographics). However, the general tone of most drug abuse appeals surveyed in earlier studies, when compared with the type of information sought by parents, appears inappropriate.[23]

It is apparent that drug abuse information is proliferating without any real data about its effectiveness in either creating awareness attitude change about drug use or decreasing its incidence. The various message sources, the channels employed, and the appeals utilized appear to lack coherent purpose. Also, because of the frequent conflict in approaches to drug abuse information, the National Commission on Marihuana and Drug Abuse[24] acknowledged a confusion and uncertainty in the public

about the veracity of available information. It recommended that one federal source (The National Clearinghouse for Drug Abuse Information) be mandated to perform the task of drug abuse information dissemination. Nevertheless, a wide variety of other overlapping organizations serve as supplementary and often redundant sources about drug abuse.[25]

The availability and diversity of the nonmedia sources of information suggest a number of questions usually restricted to studies about the relative advantage of one medium over another. Compared to the media, what are the functions of the supplementary sources? What about the relative advantage and believability of one source over another? Do the media present information qualitatively different from other sources? Are information seekers utilizing one source different from those utilizing another? How is the information from the various sources processed?

DRUG ABUSE INFORMATION SEEKING

It is an established finding in communication research[26] that generally the higher the credibility of the source the less manipulative his persuasive intent is perceived to be and hence the greater the immediate tendency to accept his conclusions. Such credibility effects may be of little importance in the transmission of factual information[27] and thus may have minimal bearing on campaigns that create awareness about drug abuse effects. But, in informational campaigns of the type most effective in persuasion (for instance, two sided message appeals about the use of drugs), the influence of the source becomes a crucial factor, although mitigated by the influence of reference group norms among user populations.

A review of the mass communication literature, and its application in other fields, yields little about the dissemination of public service information in general, and drug abuse messages in particular. As previously suggested, it appears

that drug abuse dissemination activities typically occur without adequate audience analysis and predicated on a discounted one-step model posiving mass effects consequent to media exposure.[28] In the theoretic literature however, a media-to-opinion leader-to-follower paradigm is frequently posited, while Troldahl group, presents strong data to indicate that for certain categories of information (e.g., public affairs) opinion leadership is predominantly a two way process; with as much information sharing as information imparting occurring between opinion leaders and "followers."[29] Drug abuse information seems more amenable to analysis in this latter paradigm, suggesting the inappropriateness of the traditional opinion leadership concept to drug abuse information sharing. That is, the down-the-block neighbor with expertise in drug abuse who is sought out about drug effects probably does not exist for adults.

Drug abuse information does not, prima facie, appear similar to other types of mass communicated information such as news about the latest fashions or space activities, or information about gourmet cooking. More probably, drug abuse information is considered a rather personal and private type of information similar to birth control knowledge. Thus, in terms of creating awareness about drug abuse information, the traditional relay functions served by the opinion leader seem even more inapplicable due to the private nature of the information. Additionally, it is highly unlikely that individuals, especially the naive young, will be sufficiently motivated to seek additional information by writing for it to an agency, as urged at the tag end of most televised drug abuse messages. Such motivation, that is information search, is usually motivated by some type of uncertainty, either about a topic or about alternatives (alternative outcomes, interpretation, effects, etc.).[30]

Much of what Festinger,[31] in his exposition on cognitive dissonance, labels predecisional conflict also applies to drug abuse information search. An individual

experiencing such conflict would be relatively "unable" to discriminate among the effects, alternative modes of treatment, or alternatives to drug use when compared to those with sufficient information. Likewise, a user exposed to contradictory information about illicit drug use may avoid inconsistent sources and seek consonant information.[32]

Although many of the knowledge claims about information seeking have yet to be validated for specialized topics such as drug abuse, certain implications are suggested. For instance, it seems tenable that drugs differ in the amount of risk perceived by users about the physiological, social and legal consequences of consumption. Marijuana would be a low risk drug, while heroin (opiates) would have the highest perceived risk. In the middle would be the amphetamines, barbiturates and psychedelic drugs. Not only are harder drugs probably more inaccessible and thus demanding of riskier search behavior, but there are considerable differences in the legal penalties imposed on a conviction for possession of soft drugs (marijuana) and hard drugs (heroin). Possession of softer drugs is usually treated as a misdemeanor, whereas harder drug use generally draws felonies and jail terms. Given this relationship, then the attitudes (of users) toward the higher risk drugs may have gone through considerably greater dissonance reduction and justification procedures than the attitudes of marijuana users, resulting in well defined attitudes for the former group. These relations, then, suggest the following considerations:

-- more defense mechanisms will be raised in areas where attitudes are firmer or the user is more ego-involved through extensive self justification (i.e., the harder drug area);

-- consequently, media impact of drug abuse messages for the higher risk audience will be minimal;

-- and, information seeking about harder drugs will rely more on professional sources, whereas information about drugs perceived of low risk will be sought from friends or the media.

Hypotheses

The previous discussion, then, suggests a number of hypotheses about the communication behavior of individuals with regard to drug abuse:

Given the availability, use, and perceived low risk of marijuana,

1. Friends are more likely to be cited than other sources in providing initial awareness about marijuana;

However, given the lower availability and access, and the higher perceived risk of harder drugs,

2. The media (general content, not public service announcements) are more likely to be cited as sources of first awareness about noncannabis drugs.

In seeking information about drugs, their effects and treatment, however,

3. All information seekers will more likely prefer friends or professional sources over governmental agencies.

4. Also, those seeking information about cannabis drugs will choose friends over other sources.

5. But, those seeking information about noncannabis drug effects and treatment will prefer professional or quasi-professional sources.

Among users and nonusers, however, information seeking will differ as follows:

6. Nonusers will more likely than users cite the media as an information source.

7. Users, except for cannabis users, will seek out professional health services or drug lines rather than other sources.

When faced with contradictory information from friends and other sources,

8. Friends will be chosen over all other sources.

9. For noncannabis drugs, however, a doctor or health center will be sought out.

10. The most convenient source of drug abuse information will be friends.

11. The most believable source of drug abuse information will be medical sources.

METHOD

Subjects were 407 college students enrolled in an upper level communication course and various sections of an intraductory communication course at The University of Connecticut. Students represented all class years.

The subjects completed one of five versions of a self-administered survey instrument[33] during part of a class period. Versions were randomly distributed among subjects. Each questionnaire was identical with the exception of the cover sheet, which made reference to one of five drug categories: amphetamines; barbiturates; cannabis; psychedelics; opiates. All questions were identical in format and made reference to "the drugs described." Subjects were instructed both on the cover sheet and orally that this referred only to the specific drug category listed on the cover and that only this particular category should be kept in mind when answering the items. The data were analyzed for each category (as a separata data file) and collapsed where appropriate.

Variables

The instrument was divided into three sections. The first section obtained data about the information seeking habits of subjects with regard to a specified illicit drug. This section included primarily items measuring the relative utility of one source over another. Subjects were provided with forced-choice alternative drug abuse information sources (and an open-ended "other"): friends; parents; relatives; doctor; health center or hospital; telephone drug line; counselor/psychologist/governmental agency; the media (in some items broken into television, radio, or newspapers); and drug rehabilitation programs. For these alternatives, subjects were asked about sources creating awareness, which source would be chosen for information about the treatment of a drug described, three items about their choice when faced with

contradictory information about drug abuse (from either the media and friends, parents and friends, or governmental agencies and friends), the convenience of the sources, and the believability of the sources.

The second section contained variables describing past and present drug use of the subject.[34] These variables provide cross-break predictors of information seeking and, for users, may suggest relative preferences for one information source over another. These items included questions on initial drug use; age of first use; if stopped, the reason for disadoption; the setting of first use; the relationship to friends and use; arrest information; and purchase information.

The demographic section as well as the media habit descriptions provide comparisons cross-break splits and independent predictors for examining information seeking. This section included items about age, school background (pre-college), as well as information about parents, the student's financial situation and the occupation of the main wage earner. This latter index was coded according to Troldahl's occupational prestige scale.[35] This section also included items about media selection (particularly newspapers read, television shows preferred, and radio stations orientation).

FINDINGS

The final sample included 86 "amphetamine" respondents; 83 barbiturate respondents; 88 "cannabis" respondents; 69 "psychedelics" respondents; and 81 respondents who completed questionnaires about "opiates." There were no significant demographic differences among the subsamples.

Table 1 and 2 about here

Table 1 shows that overall there exists a relationship between source of initial awareness and drug category ($\chi^2 = 55.5$; df = 20; $p < .001$). The data further provide support for hypothesis 1, indicating that friends are more likely to be identified as the source of first awareness about marijuana than other sources ($p < .001$). However, the data do not provide support for research hypothesis 2. That is, the media were not cited more than other sources in creating initial awareness about noncannabis drugs. Note however, that with the exception of the amphetamine category, respondents did indicate the media about as often as friends as sources of initial information about drugs; this contrasts with the high friend identification for cannabis. The fact that friends do provide awareness about amphetamines and barbiturates may be attributable to the dual licit and illicit function of these drugs, as well as their popularity among college students. Table 2 shows difference in initial awareness between users and nonusers ($\chi^2 = 41.4$; df = 5; $p < .001$). Note the differential function of friends, as well as the heavy media attribution by nonusers.

Table 3 about here

Table 3 displays the proportion of individuals selecting certain drug abuse information sources within each drug category; with the exception of the cannabis category, friends were cited as frequently as drug abuse programs and other professionals. However, in analyzing the professional sources together (doctor, health center, drug programs) there is clear support for hypothesis 3; all information seekers prefer friends or professional sources over governmental agencies (chi square analysis across categories, $p < .001$).

The significance of hypothesis 4 is open to qualification. It appears those seeking drug abuse information about cannabis choose friends in about the same proportion as other professional sources, when these latter sources are lumped together. However, Table 2 reveals that the single most popular source of drug abuse information about cannabis is friends, chosen by 34.5% of the respondents. This is a greater proportion than found selecting any other single source, and is also significant ($\chi^2 = 42.3$; $df = 6$; $p < .001$). Pragmatically then, given the diversity of a multitude of sources, the most viable and stable information source appears to be friends.

The complement of the research question embodied in hypothesis 4, that individuals seeking information about noncannabis drug effects and treatment will prefer professional and quasiprofessional sources is supported when those proportions are compared to those preferring friends ($\chi^2 = 47.8$; $df = 1$; $p < .001$), and confirms hypothesis 5. Nevertheless, in the overall examination of the data relative to these three hypotheses, it is evident that there is a lack of a strong interaction among the drug categories and the respective information sources identified as originally suspected.

Table 4 about here

There is little difference between the proportions of nonusers and users citing the media as a source of drug abuse information (Table 3) thus providing no support for hypothesis 6. Similarly, excluding the canabis category, there is about an equal proportion of users identifying friends as identify professional sources and telephone drug lines (table not shown), thus providing no support for hypothesis 7. Further examination of the data reveal, however, that while the proportions of

sers selecting friends or professional sources are equal (50% in each case), among nonusers the proportions are considerably different with only 26% identifying friends as a source of drug abuse information but 74% identifying professional sources or telephone lines. This significant difference in proportions ($\chi^2 = 12.8$; $df = 1$; $p < .001$) is further borne out in the significantly different pattern of overall information seeking between users and nonusers, as listed in Table 4 ($\chi^2 = 52.04$; $df = 7$; $p < .001$). Note that when compared to the users, nonusers are more "other" oriented in where they seek information: they rely significantly more on telephone lines and professional sources and very little on friends or their own experiences. Yet users rely much more on friends than nonusers, as well as placing reliance on their own experiences and their reading in pharmaceutical books. The "other" orientation evidenced by the nonuser group in this data may suggest a susceptibility to drug abuse mass communication campaigns. At the very least, the data suggest that communications directed to nonusers do not have to overcome the apparent peer group reference of friends who may provide attitudinal anchors for the user group.

Even though respondents may identify a particular source to which they might go to for drug abuse information, it is likely (at least according to the National Commission on Marihuana and Drug Abuse)[36] that the multiplicity of available sources, coupled with the probable availability of self-proclaimed knowledgeable friends may lead to confusion or uncertainty about competing information. When asked where they would go to resolve contradictory information about any drug or its effects, when the information originates from either one's friends and (a) the media, (b) relatives or parents, or (c) a governmental agency, an average of almost one half the respondents prefer to seek additional information from a doctor or health center/clinic.

The expectations (hypothesis 8 and 9) that friends would be the first conflict-resolving choice, and for noncannabais drugs, professional sources, were not borne out. In each case, the media were identified as the second conflict resolving choice (an average of 14% of the respondents) and friends were selected as the third choice (an average of 11% of the respondents). Table 5 shows users and nonuser choices appear to be significantly different ($p < .001$) in an analysis of the three major choices, and follow patterns found for other hypotheses: nonusers are more professional source oriented. Note that users would seek the media more than non-users.

Finally, Table 6 displays the drug abuse information sources identified as most convenient or believable. Hypothesis 10 was supported ($\chi^2 = 16.6$; $df = 3$; $p < .001$) in that friends were clearly identified as the most convenient source of drug abuse information by 60% of the respondents. Between user and nonuser groups (see Table 7) there are some differences in this figure however, with only 50% of the nonusers identifying friends, whereas 83% of the users consider friends the most convenient source ($\chi^2 = 43.3$; $df = 2$; $p < .001$). Hypothesis 11 predicted that most believable source of drug abuse information would be medical sources (phone lines included). This was not supported by the data shown in Table 6. However, examination of Table 8 yields significant differences ($\chi^2 = 48.7$; $df = 3$; $p < .001$) between users and nonusers in which sources they consider most believable. These data again follow previous trends, with users groups overwhelmingly preferring friends, whereas non-users prefer "outside sources," such as media ads, phone lines and medical sources (and others).

In addition to hypothesis testing (and related analyses), post hoc chi square analyses of additional data indicated the following significant relationships (all $p < .05$):

1. In terms of sources of initial information about drug abuse effects for particular drugs,

   -- those learning of drug abuse from television ads

      a) became initially aware about the drug's existence from friends, resolve contradictory information from any sources by seeking out doctors and health centers, but consider friends more believable;

   -- those learning of drug abuse from friends,

      b) became initially aware from friends also, and they also consider them most believable;

   -- those learning of drug abuse from their own use or reading,

      c) consider friends most believable also.

2. In terms of where one would seek information about the treatment or effects of a particular drug,

      a) those initially aware of a drug's existence through friends would seek information equally from friends and drug abuse programs,

   -- overall, regardless of where information was sought,

      b) respondents would resolve contradictory information about drug abuse by going to doctors and health centers, considered friends the most convenient source, became initially aware of a drug's existence through friends, and obtained drugs (if users) only in face-to-face contacts with one or two others;

   -- but, those seeking information from friends,

      c) tend to favor legalization of drug use;
      became initially aware through friends;
      learn about drug abuse and a specific drug through friends;
      consider friends most believable;
      tend not to have a car;

   -- those indicating they would seek information from a telephone drug line,

      d) were primarily aware of drug abuse effects from friends and TV ads;
      considered doctors to be the most believable source;
      tended to be nonusers, older, have higher status families and have a car;

-- those indicating they would seek information from drug abuse programs,

f) learned about drug abuse effects from reading;
felt drug telephone lines were the most believable;
did not favor legalization of drugs;
tended to be nonusers;
tended not to have a car.

3. Information sources described by respondents as being the most convenient,

-- overall

a) friends were the most frequently cited source;

-- when friends were chosen, individuals

b) gained initial knowledge about a drug's existence or about drug abuse effects from friends or self-use;
tended to favor the status quo in drug laws;
felt friends were the most believable source;
tended to be older than those feeling media ads were the most convenient;

-- when media ads were chosen, individuals

c) gained initial awareness from media shows or articles;
learned about drug abuse effects from television drug abuse ads or self use;
perceived impersonal sources as most believable;

-- when telephone drug lines were chosen, individuals

d) also perceived the phone drug lines as most believable.

4. Information sources described by respondents as being most believable,

-- overall,

a) doctors and health centers were first chosen to be consulted to resolve conflicting information from any source;

-- but, if friends were considered most believable,

b) respondents tended to favor (slightly) legalization;

-- if government agencies were chosen,

c) respondents overwhelmingly believed in the status quo about drug laws;

-- if media ads or telephone drug lines were chosen,

d) respondents also tended to favor the status quo about drug laws.

5. Sex differences:

-- Females

a) tended to favor the status quo drug laws;
primarily selected doctors or health centers to resolve conflicting information;
if users, would contact only particular sources;
if users, tended to normally buy smaller amounts of amphetamines than male users;

-- Males

b) tended to be evenly divided between favoring legalization and the status quo in drug laws,
went to a variety of sources when confronted with contradictory drug abuse information;
if users, would ask various familiar sources about purchases.

6. User, nonuser differences:

-- Users

a) tended to favor legalization of drug use;
obtained their first knowledge of drug use from friends;
consider friends overwhelmingly the most convenient and believable source of information about drugs; and therefore sought information about drugs from friends;

-- Nonusers

b) indicated as much initial awareness from friends as from media content;
considered friends and media ads equally convenient and believable;
tended to seek information primarily from professional sources;
used the same sources as users in resolving conflicting information.

On the basis of the data base (n = 407) 128 users were identified. An analysis of the data indicates the following "user profile":

-- there were no sex differences in frequency or type of drug use;

-- 94% of all users have smoked or smoke marijuana;

-- users tend to be richer and have higher status families than nonusers;

-- tend to be about the same age as nonusers;

-- those who stopped cite personal reasons (e.g., foolish);

-- were initiated by close friends whom they have known for at least a year;

-- obtain their supply of drugs through small face-to-face encounters with one or two others;

-- contact dealers by seeking a particular, or a few particular sources;

-- make an average of 1.4 contacts before obtaining desired drugs;

-- majority of users have initiated no others to use;

-- of those who have initiated others (44%), a majority have only initiated 1 or 2 others;

-- about 50% of those who have initiated, did so in dormitory rooms, the rest (38%) in their own off-campus apartments or their parents' home (12%);

-- 96% of the users have never been arrested for other than traffic violations;

-- amphetamine and psychedelic drug users tended to use drugs "very occasionally" or less, while cannabis users tended to use it every other day;

-- the normal purchase amount of marijuana was an ounce or less; and

-- the normal purchase pattern for psychedelics was 5 "trips" or less; speed, 10 pills or less, but marijuana users tended to buy only 1 amphetamine pill (up) at a time; barbiturates, 5 pills or less.

DISCUSSION

The data indicated support for the following hypotheses and related statements:

-- friends provide initial awareness about marijuana and (unexpectedly) amphetamines, but friends and media content generate awareness in equal proportion about other drugs. With the exception of marijuana and amphetamines however, media content and drug abuse ads do account for the greatest amount of initial awareness about drugs;

-- drug abuse information seekers prefer friends and professional sources over governmental agencies in all cases;

-- although friends are the single most popular source of drug abuse information about cannabis, professional and quasi-professional sources are preferred about noncannabis drugs;

-- the most convenient source of drug abuse information is friends.

These data, as well as the post hoc data, bear on a number of points suggested earlier: the presence of a multidimensional drug use continuum; differential information seeking and opinion leadership; the role of nonmedia sources. Additionally, a considerable difference in communication activity between drug users and nonusers emerged from a finer analysis of the hypothesis data.

It was postited that a multidimensional continuum might explain the relationship among type of drug, its perceived risk, strength of attitudes toward the drug, such that "softer", less controversial drugs (e.g., marijuana) would be placed on the low end of the scale (low risk, less intense attitudes), while the "harder", more controversial drugs would be on the high end. "Controversy" could be interpreted to mean conflicting public statements about a drug's effects, or the like, which may be in divergence with user norms. These data provide support for such a paradigm. That is, for the softer drugs, less professional (and credible ?) sources are solicited for drug abuse information than for the harder drugs.

When users and nonusers are examined separately, users tend to select friends as frequently as professional sources for drug abuse information. That nonlinearity is apparent in the overall relationship of the continuum is shown by data indicating that of all users amphetamine users rely least on friends (38%) and psychedelic users rely most on friends (58%). Also, psychedelic users tend to rely least on professional sources (10%); but, other users (except for cannabis -- 25%) do rely on professional sources (an average of 35%). But, among nonusers, only 26% will seek drug abuse information from their friends, and a whopping 74% prefer to rely on professional sources or telephone help lines. The significant differences between

the groups points up a trend found in these data: users and nonusers exhibit different communication behavior about initial drug awareness, drug abuse information seeking, conflict resolution, and other activity. A similar finding emerged in a study of illicit drug dealers: dealers tended to be much like users in almost all facets of communication behavior, yet differed significantly from the nonusers.[37]

The data also indicated similar patterns between the two groups in resolving conflicting information or identifying the most believable and convenient sources, and even in naming their sources of initial awareness about drugs. It becomes evident that there are different communication channels utilized by the two groups: interpersonal-friendship sources predominate for users in almost all cases, but professional sources and the media provide initial awareness and information for nonusers. Whether these differences arise mainly out of differential perceptions (through experience) of what constitutes use risk, or, for nonusers the controversial nature and lack of reliable information about some drugs, remains open to investigation.

Nevertheless, as suggested, the notion of opinion leadership cannot be said to be operating for nonusers; while it may for users. As has been posited elsewhere, drug users exist in a drug culture, a milieu with its own reference norms and reinforcement that may make it resistant to blatant media persuasion attempts. Of course, it may be the case that the friends identified by users initially gained their awareness (before becoming users) from the media, and that these individuals constitute the opinion leaders in the classic sense.

What about the role of the media in disseminating information about drug abuse? From these and other data and in this series, a number of generalizations begin to emerge. Note the relative lack of reliance on the media by users (Table 2); yet

the reliance by 48% of the nonusers on media shows or drug abuse ads for initial awareness. These proportions tend to exist across drug categories, except when nonusers indicate sources of initial awareness about psychedelics and opiates (probably the two most risky and medically controversial drugs): a significantly larger number of nonusers (than users) identify media shows and spots (primarily media shows) over friends in creating initial awareness about the existence of the drugs. In terms of information seeking function, however, there is little evidence to support the media.

For example, in terms of a preferred information source about drug abuse, the media play a negligible role (Table 3). There user-nonuser differences are not apparent. However, when faced with conflicting information from friends and other sources, the media do become the second conflict resolving choice for both users and nonusers, even ahead of friends in both groups. Also, when considering convenience and believability, media ads play a prominent role for nonusers, but a very minor one for users. Media orientation differs somewhat too. Dealers and users read Rolling Stone, Time, Playboy, and The National Lampan; nonusers read Time, Life, Newsweek and Playboy. Dealers and users listen to "underground" rock FM Stations; nonusers strongly prefer an AM top 40 station. Dealers prefer TV movies and news programs; users and nonusers prefer All in The Family and news.

In terms of nonmedia, impersonal sources, it was suggested that the government's dual role in the area of drug abuse is not amenable to lending maximum credibility to an information campaign. Since the government is both an enforcer as well as an educator of drug abuse, reaction to one type of behavior may interfere with reaction to the other type of information. Specifically, the credibility of the government's efforts in the area of drug abuse may be seriously diminished by users' reactions to either conflicting government disseminated information (e.g., about marijuana)

or by a general negative set toward enforcement activities on the part of ego-involved users.

The consistently low rankings of government activities by respondents in this study suggests that this may be the case. For instance, it remains an empirical question whether the government's (National Clearinghouse for Drug Abuse Information) proposed national drug abuse hotline can be effective with this type of set apparently operating. The data also suggest that while government dissemination activities may have some impact on nonusers, it seems unlikely that they will have affect on users. Note that unlike any other type of information (e.g. about alcoholism) anti-drug abuse messages may have a perceived latent function of trying to prohibit an illegal activity. How such covert purpose may affect information processing needs ample investigation.

As Woodley[38] notes in his journalistic portrayal of a Harlem cocaine dealer, "The potential (cocaine) drug user who seriously wishes to know the extent of the dangers, or who is at least willing to listen, quickly discovers that the information peddled doesn't chick out. So he is likely to throw out the wheat with the chaff and believe nothing." Such an information-defensive reaction, which has been attributed in this study to all users involved with controversial and high risk drugs, is a potential consequence of an impending drug abuse information explosion. This potentiality has already been recognized by the National Commission on Marihuana and Drug Abuse, as previously discussed.

The point is that, regardless of the origination of the message, unless the veracity of the appeal is perceived high, and the credibility of the channel is also high, individuals will selectively reject the communication. Maintaining the accuracy and credibility of drug abuse information becomes an even more important

task as the general level of drug abuse awareness rises in society and people seek more sophisticated information.

Another point that is supported by the significant hypotheses, as well as the other data, is the importance of interpersonal (friendship) networks. The influence of peer groups and reference groups in mediating the impact of the mass media is well documented. Not only does it seem that friendship plays an important role in adopting dealer behavior (Atkyns and Hanneman, 1972) but also in drug use and information seeking, as is apparent from this study.

What this suggests is that information dissemination activities should be geared to supplement interpersonal activities. One approach might be to direct information in a way so as to suggest the utility of it for consequent communication to others, in essence providing the receiver of the messages with an instrumental purpose for its acceptance.

The post hoc data also seem to have implications for information dissemination of drug abuse communications. For instance, one overall finding was that doctors or health centers and hospitals were consistently cited as the source to seek out in resolving information conflicts. This may suggest that informational campaigns sponsored by medical groups, or referring to hospital information services, stand a good chance of acceptance by nearly all facets of the audience. Placement of drug abuse information in these channels seems especially advantagous.

Many of the other findings, of course, provide heuristic grounds for further investigative work. Nevertheless, the overall trend exhibited by the data lend support to many of the innovation diffusion concepts discussed. While Rogers' model posits that initial awareness is usually disseminated through the media, these data indicate friends are the predominant first source for users, but not for nonusers. The disparity is probably due to the private nature of drug abuse information for

nonusers and, in fact, the media are really not purposefully creating awareness about drugs as an innovation, whereas it is possible friends do so among peers in the drug milieu. However, Rogers does predict the higher status and cosmopoliteness of drug users, as well as the social similarity among friend initiators found in this study. Future work will have to determine whether the adoption process for drugs is similar to that for other innovations.

In conclusion, this study has indicated a number of problem areas in the realm of disseminating drug abuse information. It has arrived at some knowledge claims about information seeking behavior and drug abuse behavior. Finally, it presented an extensive outline of significant relationships about information seeking and drug abuse, as well as a user profile. These data serve as a data base for future work.

NOTES

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[1]See Walter Weiss, "Mass Communication," Annual Review of Psychology, Vol. 22, 1971, pp. 309-336.

[2]Burns W. Roper, A Ten-Year View of Public Attitudes toward Television and Other Mass Media, 1959-1968, New York, Television Information Office, 1969.

[3]Paul Deutschmann and W. Danielson, "Diffusion of Knowledge of a Major News Study," Journalism Quarterly, Vol. 37, 1960, pp. 345-355.

[4]S. Wade and Wilbur Schramm, "The Mass Media as Sources of Public Affairs, Science and Health Knowledge," Public Opinion Quarterly, Vol. 33, 1969, pp. 197-202.

[5]Bradley S. Greenberg, "Media Use and Believability: Some Multiple Correlates," Journalism Quarterly, Vol. 43, 1966, pp. 665-670.

[6]S. Wade and Wilbur Schramm, "The Mass Media as Sources of Public Affairs, Science and Health Knowledge," op. cit.

[7]Verling Troldahl, R. Van Dam and G. Robeck, "Public Affairs Information Seeking From Expert Institutionalized Sources," Journalism Quarterly, Vol. 42, 1965, pp. 403-412.

[8]Everett M. Rogers with F. Shoemaker, The Communication of Innovations, New York, The Free Press, 1971.

[9]However, see M. Timothy O'Keefe, "The First Human Heart Transplant: A Study of Diffusion Among Doctors," Journalism Quarterly, Vol. 46, 1969, pp. 237-242.

[10]It may not be unreasonable conjecture that the late sixties saw a phenomenon develop on a long term basis, that previously only existed infrequently: societal

informational overload. While social scientists are aware of the failure of communication during much of the racial strive of the sixties, little has been written about the later period, the political and cultural explosion, that with its concommitants left most communicators unprepared. It may not be farfetched to establish communication predictor agencies, which might map the informational needs of the public over five or ten year periods. In other words, agencies providing information forecasting in much the same manner that economic forecasting is carried out.

[11]During the spring of 1972 there were 7 major telephone information lines in operation in the Central Connecticut region providing callers with a wide range of information. See G. Hanneman and M. Pet, "The Search for Drug Abuse Information," University of Connecticut, Division of Communication, DAIR Report No. 4, 1972.

[12]L. Richards and John H. Langer, Drug Taking In Youth, Washington, National Clearinghouse for Drug Abuse Information, 1971.

[13]Although recent examination of the media indicate this trend is changing. For example, the September 1972 issue of Playboy (Vol. 19, No. 9, pp. 139-150) published articles on drug abuse as well as presenting a fold-out chart about drugs, drug abuse and treatment. Such content treatment reflects an approach exhibited by the underground media for years: namely, that a certain amount of drug abuse exists and consequently information about treatment, etc., instrumental in coping with it is necessary rather than messages directed solely toward obtaining attitude change or awareness of the problem.

[14]Gerhard J. Hanneman, William J. McEwen, G. Isbell and D. Druham, "Televised Drug Appeals: A Content Analysis," University of Connecticut, Division of Communication, DAIR Report No. 1, 1972.

[15]Anonymous, "Ads Hitting at Drug Use Go to the Media," Editor and Publisher, Vol. 102, September 6, 1969, p. 16.

[16]National Institute of Mental Health, A Guide to Drug Abuse Information and Educational Materials, Washington, National Clearinghouse for Drug Abuse Information, undated.

[17]G. Cwalina, "Drug Use on High School and College Campuses," Journal of School Health, Vol. 38, 1968, pp. 638-646.

[18]D. Frejer, R. Smart, P. Whitehead and L. LaForest,"Sources of Information about Drugs among High School Students," Public Opinion Quarterly, Vol. 32, 1968, pp. 380-397.

[19]J. P. Zima and G. A. Smith, "High School Students, Drugs and Teachers: A Survey," Paper presented to the International Communication Association, Minneapolis, 1970.

[20]J. D. Swisher and R. W. Warner, "A Study of Four Approaches to Drug Abuse Presentation," Final Grant Report, Washington, U.S. Department of Health, Education and Welfare, 1971.

[21]One federal agency concerned with promulgating drug abuse information, the Bureau of Narcotics and Dangerous Drugs estimates it receives 8-10 million requests per year for drug abuse information.

[22]See Percy H. Tannenbaum and Bradley S. Greenberg, "Mass Communication," Annual Review of Psychology, Vol. 19, 1968, pp. 351-386. Data about New England College from G. Hanneman and Deborah Durham, "Urban and Rural Differences in Mass Communication Utilization," University of Connecticut, Communication Research Program, 1972.

[23]Cf. G. Hanneman and W. J. McEwan, et al., "Televised Drug Appeals: A Content Analysis," op. cit. and G. Hanneman and M. Pet, "The Search for Drug Abuse Information," op. cit.

[24]National Commission on Marihuana and Drug Abuse, Marihuana: A Signal of Misunderstanding, Washington, U.S. Government Printing Office, 1972.

[25]On a federal level three major agencies disseminate such information: The Bureau of Narcotics and Dangerous Drugs of the Department of Justice; the Department of Defense; and the National Institute of Mental Health. Theoretically, the National Clearinghouse for Drug Abuse Information is the informational clearinghouse for all agencies, and it in turn is regulated by the President's Special Action Office for Drug Abuse Prevention (SAODAP). In reality these agencies, as well as smaller agencies within HEW, frequently make independent policy decisions about drug abuse information as well as disseminate some of their own materials.

[26]For example, Carl I. Hovland, I. Janis and H. Kelley, Communication and Persuasion, New Haven, Yale University Press, 1960.

[27]B. Berelson and G. Steiner, Human Behavior , New York, Harcourt, Brace and World, 1964.

[28]G. Hanneman and W. J. McEwen, et al., "Televised Drug Appeals: A Content Analysis," op. cit.

[29]See E. M. Rogers, Diffusion of Innovation, Glencoe, The Free Press, 1962; also, Verling Troldahl, et al., "Public Affairs Information Seeking from Expert Institutionalized Sources," op. cit.

[30]Cf. Charles K. Atkin, "Interpersonal Communication as a Determinant of Mass Media Exposure Patterns," Paper presented to the International Communication Association, Phoenix, 1971; Edwin Parker and William J. Paisley, "Patterns of Adult Information Seeking," Stanford, Institute for Communication Research, 1966.

[31]Leon Festinger, A Theory of Cognitive Dissonance, New York, Harper and Row, 1957.

[32]For example, see J. S. Adams, "Reduction of Cognitive Dissonance by Seeking Consonant Information," Journal of Abnormal and Social Psychology, Vol. 62, 19[illegible], pp. 74-78. These findings suggest that two types of information would be best suited for a drug abuse campaign: factual information, stressing the relative risks and gains from drug use and its alternatives for nonusers, and nondissonant or non-negative appeals to current users (thus avoiding tune out) subtly identifying some of the social consequences of drug use.

[33]The instrument is available from the authors.

[34]Note "drug use" in this study cannot be interpreted as accurately reflecting overall use since subjects did not have alldrug category options to choose from when indicating use.

[35]Verling Troldahl, "Occupational Prestige Scale," Michigan State University, Department of Communication, mimeo, 1967.

[36]National Commission on Marihuana and Drug Abuse, Marihuana: A Signal of Misunderstanding, op. cit.

[37]Robert L. Atkyns and G. J. Hanneman, "Illicit Drug Distribution and Dealer Communication Behavior," Journal of Health and Social Behavior, forthcoming.

[38]R. Woodley, Dealer: Portrait of a Cocaine Merchant, New York, Holt, Rinehart and Winston, 1971, p. 52.

TABLE 1

Sources of Initial Awareness of Various Drug Categories

Information Source	Drug Category				
	Amphetamines	Barbiturates	Cannabis	Opiates	Psychedelics
Friends	64.0% (55)	37.8% (31)	64.4% (56)	34.6% (28)	47.1% (32)
Relatives	2.3% (2)	11.0% (9)	2.3% (2)	6.2% (5)	0.0% (0)
Drug Program	3.5% (3)	6.1% (5)	1.1% (1)	1.2% (1)	0.0% (0)
Media Public Service Spots	8.1% (7)	15.9% (13)	6.9% (6)	14.8% (12)	8.8% (6)
Other Media Stories/Shows	19.8% (17)	25.6% (21)	20.7% (18)	37.0% (30)	39.7% (27)
Other	2.3% (2)	3.7% (3)	4.6% (4)	6.2% (5)	4.4% (3)
	N=86	N=82*	N=87*	N=81	N=68*

*Does not include 1 missing case.

TABLE 2

User/Nonuser Differences in Initial Awareness

Information Source	Type	
	Users	Nonusers
Friends	72% (92)	40% (109)
Relatives	5% (6)	4% (12)
Drug Program	2% (3)	3% (7)
Media PSA's	3% (4)	15% (40)
Media Content	17% (22)	33% (90)
Other	1% (1)	6% (16)
	N=128	N=274*

*Sums to over 100% due to rounding error; also does not include 5 missing cases.

TABLE 3

Preferred Drug Abuse Information Sources about Various Drug Categories

Information Source	Drug Category				
	Amphetamines	Barbituates	Cannabis	Opiates	Psychedelics
Friends	24.7% (21)	19.5% (16)	34.5% (30)	23.8% (19)	32.4% (22)
Telephone drug line	14.1% (12)	19.5% (16)	13.8% (12)	16.3% (13)	19.1% (13)
Professional Sources: Private doctor	11.8% (10)	24.4% (20)	11.5% (10)	18.8% (15)	7.4% (5)
Professional Sources: Health center	12.9% (11)	8.5% (7)	9.2% (8)	7.5% (6)	1.5% (1)
Professional Sources: Drug rehabilitation/abuse program	23.5% (20)	20.7% (17)	16.1% (14)	27.5% (22)	29.4% (20)
Governmental agency	1.2% (1)	0.0% (0)	1.1% (1)	1.3% (1)	1.5% (1)
Media	3.5% (3)	2.4% (2)	2.3% (2)	2.5% (2)	4.4% (3)
	N=85*	N=82*	N=87*	N=80*	N=68*

*Does not include 1 missing case.

TABLE 4

Drug Abuse Information Sources Preferred
by Users and Nonusers

	Information Source	Type	
		Users	Nonusers
	Friend	45% (58)	18% (50)
	Telephone line	12% (15)	19% (51)
Prof. Sources	Doctor	8% (10)	18% (50)
Prof. Sources	Health center	8% (10)	8% (23)
Prof. Sources	Drug program	12% (15)	29% (78)
	Government agency	1% (1)	1% (3)
	Media (content & ads)	3% (4)	3% (8)
	Other (self; books)	12% (15)	4% (11)
		N=128	N=274*

*Does not include 5 missing cases.

TABLE 5

Overall User-Nonuser Preferences of Sources to Resolve Conflicting Drug Abuse Information

Information Source	Type	
	User	Nonuser
Friends	13% (17)	8% (22)
Professional Sources	29% (37)	50% (140)
Media Ads	19% (24)	12% (33)
Other (six sources)	38% (49)	30% (84)
	N=128	N=279

TABLE 6

Convenience and Believability of Drug Abuse Information Sources

Information Sources	Source Characteristic	
	Convenient	Believable
Friends	59.9% (243)	36.1% (144)
Relatives (not parents)	0.5% (2)	0.5% (2)
Parents	1.0% (4)	0.8% (3)
Government Agencies	3.0% (12)	9.8% (39)
Media Ads	14.8% (60)	7.0% (28)
Telephone Drug Help Line	7.1% (29)	22.8% (91)
Other (Medical Sources; books)	8.6% (35)	18.3% (73)
None	5.2% (21)	4.8% (19)
	N=406*	N=399*

* Does not include 1 and 8 missing cases, respectively.

TABLE 7

Convenience of Drug Abuse Information Sources
for Users and Nonusers

Information Sources	Type	
	User	Nonuser
Friends	83% (106)	50% (137)
Media Ads	2% (3)	20% (56)
Other (6 sources)	15% (19)	30% (83)
	N=128	N=276*

*Does not include 3 missing cases.

TABLE 8

Believability of Drug Abuse Information Sources
for Users and Nonusers

Information Sources	Type	
	User	Nonuser
Friends	60% (77)	25% (67)
Media Ads	3% (4)	13% (35)
Phone Lines	15% (19)	27% (72)
Other (5 sources)	22% (28)	35% (95)
	N=128	N=269*

*Does not include 10 missing cases.